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Please amend the application as follows:

Amendments to the Claims

Please cancel Claims 1-6, 10-15, 19-24, 28-33 and 37-40. Please amend Claims 7, 9, 16, 18, 25, 27, 34 and 36. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1-6 (Canceled)

7. (Currently Amended) ~~A system as claimed in claim 1 wherein the pointer to a location in memory further includes~~ A data processing system comprising:

memory; and

a pointer to a location in memory, the pointer comprising:

a block field defining a block size;

a length field defining a number of blocks in a segment of memory;

an address pointing into the segment of memory;

a finger field which denotes a block of the segment of memory into which

the address points; and

an increment-only bit which when set causes the system to exclude negative offsets to the address in the pointer.

8. (Original) A system as claimed in claim 7 wherein the address of the pointer to a location in memory points to the base address of a memory region within the segment, all portions of the memory segment not within the memory region having addresses less than the address in the pointer to a location in memory.

9. (Currently Amended) ~~A system as claimed in claim 1~~ A data processing system comprising:

memory; and

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a pointer to a location in memory for each of a segment of memory and a subsegment within the segment of memory, the pointer comprising:
a block field defining a block size;
a length field defining a number of blocks in a segment of memory;
an address pointing into the segment of memory; and
a finger field which denotes a block of the segment of memory into which the address points. wherein the memory representation includes a block field, length field and finger field, respectively

10-15 (Canceled)

16. (Currently Amended) ~~A method as claimed in claim 10 further comprising~~ A method of representing data in a data processing system comprising:
defining a block size in a pointer to a location in memory;
defining in the pointer to a location in memory a number of blocks in a segment of memory;
defining in the pointer to a location in memory an address pointing into the segment of memory;
defining in the pointer to a location in memory a block of the segment of memory into which the address points; and
excluding negative offsets to the address in the memory representation where an increment-only bit is included in the representation pointer.
17. (Original) A method as claimed in claim 16 wherein the address of the pointer to a location in memory points to the base address of a memory region within the segment, all portions of the memory segment not within the memory region having addresses less than the address in the pointer to a location in memory.
18. (Currently Amended) ~~A method as claimed in claim 10 wherein the memory representation includes a block field, length field and finger field, respectively;~~ A method of representing data in a data processing system comprising:

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defining a pointer to a location in memory for each of a segment of memory and a subsegment within the segment of memory;

defining a block size in a pointer to a location in memory.

defining in the pointer to a location in memory a number of blocks in a segment of memory;

defining in the pointer to a location in memory an address pointing into the segment of memory; and

defining in the pointer to a location in memory a block of the segment of memory into which the address points.

19-24 (Canceled)

25. (Currently Amended) ~~A computer program product system as claimed in claim 19 wherein the pointer to a location in memory further includes~~ A computer program product comprising:

a computer usable medium for storing data; and

a set of computer program instructions embodied on the computer usable medium, including a pointer to a location in memory, the pointer comprising:

a block field defining a block size;

a length field defining a number of blocks in a segment of memory;

an address pointing into the segment of memory; and

a finger field which denotes a block of the segment of memory into which the address points; and

an increment-only bit which when set causes the system to exclude negative offsets to the address in the pointer to a location in memory.

26. (Original) A computer program product as claimed in claim 25 wherein the address of the pointer to a location in memory points to the base address of a memory region within the segment, all portions of the memory segment not within the memory region having addresses less than the address in the pointer to a location in memory.

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27. (Currently Amended) ~~A computer program product as claimed in claim 19 wherein the memory representation includes a block field, length field and finger field, respectively;~~
A computer program product comprising:
a computer usable medium for storing data; and
a set of computer program instructions embodied on the computer usable medium,
including a pointer to a location in memory for each of a segment of memory and a
subsegment within the segment of memory, the pointer comprising:
a block field defining a block size;
a length field defining a number of blocks in a segment of memory;
an address pointing into the segment of memory; and
a finger field which denotes a block of the segment of memory into which
the address points.
- 28-33 (Canceled)
34. (Currently Amended) ~~A computer data signal as claimed in claim 28 wherein the pointer to a location in memory further includes~~ A computer data signal comprising a pointer to a location in memory, the pointer comprising:
a block field defining a block size;
a length field defining a number of blocks in a segment of memory;
an address pointing into the segment of memory;
a finger field which denotes a block of the segment of memory into which the
address points; and
an increment-only bit which when set causes the system to exclude negative
offsets to the address in the pointer to a location in memory.
35. (Original) A computer data signal as claimed in claim 34 wherein the address of the pointer to a location in memory points to the base address of a memory region within the segment, all portions of the memory segment not within the memory region having addresses less than the address in the pointer to a location in memory.

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36. (Currently Amended) ~~A computer data signal as claimed in claim 28 wherein the memory representation includes a block field, length field and finger field, respectively;~~
A computer data signal comprising a pointer to a location in memory for each of a segment of memory and a subsegment within the segment of memory, the pointer comprising:
a block field defining a block size;
a length field defining a number of blocks in a segment of memory;
an address pointing into the segment of memory; and
a finger field which denotes a block of the segment of memory into which the address points.

37-40 (Canceled)